

longitudinally directed strings and generally laterally directed strings to form a string bed of the racket, and a racket throat area joining the handle portion with the head portion; and

a self-powered piezoelectric damping system comprising at least one transducer element and at least one circuit located within the racket handle portion and electrically connected to the at least one transducer element.

*(A3)*  
12. (New) The racket according to claim 1, wherein the at least one transducer element includes piezoelectric fibers.

13. (New) The racket according to claim 6, wherein the at least one transducer element includes piezoelectric fibers.

14. (New) The racket according to claim 11, wherein the at least one transducer element includes piezoelectric fibers.

#### REMARKS

In the outstanding Office action, a new title was suggested and claims 1-10 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Number 5,755,715 to Vandergrift (hereinafter "Vandergrift") in view of U.S. Patent Number 5,857,694 to Lazarus *et al.* (hereinafter "Lazarus") and U.S. Patent Number 5,869,189 to Hagood, IV *et al.* (hereinafter "Hagood").

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By this amendment, the title has been changed as suggested by the Examiner, claims 1 and 6 have been amended, and new claims 11-14 have been added. Accordingly, claims 1-14 are pending in this application.

Applicant's invention set forth in claim 1 includes a racket having a handle portion, a head portion, a throat area and a self-powered piezoelectric damping system. The piezoelectric damping system includes at least one transducer element laminated to the racket frame and at least one circuit located within the racket handle portion and electrically connected to the at least one transducer element.

Applicant traverses the rejection of independent claim 1 as obvious over Vandergrift in view of Lazarus and Hagood. The applied references fail to disclose or suggest the invention set forth in claim 1. For example, neither Vandergrift, Lazarus or Hagood, alone or in combination, disclose or suggest a transducer element laminated to a racket frame as recited in claim 1. Vandergrift discloses, among other things, a piezoelectric damper for a ski or snowboard. See figure 2. Hagood teaches a piezoelectric composite for large structural components such as aircraft wings, automobiles and submarine hulls. See column 9, lines 9-11. Vandergrift and Hagood lack any teaching of the application of piezoelectric components to a racket frame.

Lazarus discloses a piezoelectric damping system for various sports implements, including a racket. See Fig. 10. Lazarus, however, clearly discloses forming the piezoelectric actuators within the core of the racket frame, rather than laminated to the racket frame. Accordingly, Lazarus does not teach or suggest laminating a transducer element to a racket frame as recited by claim 1. In view of this, Applicant submits that the combination of Vandergrift in view of Lazarus and Hagood does not disclose or

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suggest the invention of claim 1, and the outstanding obviousness rejection should be withdrawn.

Furthermore, neither Vandergrift, Lazarus or Hagood, alone or in combination, disclose or suggest a circuit located within a racket handle as required by claim 1. As noted above, Vandergrift and Hagood do not provide any teachings regarding rackets. With respect to Lazarus, the only teachings regarding a racket (Fig. 10) do not include a circuit, much less a circuit that is located within the handle of a racket as recited by claim 1. Accordingly, the combination of Vandergrift, Lazarus and Hagood does not disclose or suggest a circuit located within a racket handle portion as recited in claim 1 and the outstanding obviousness rejection should be withdrawn.

For all of the reasons set forth above, Applicant also requests the withdrawal of the 35 U.S.C. § 103(a) rejection against claims 2-10 because these claims include all of the limitations of claim 1.

Further, claim 6 recites the circuit being affixed with a slot in the racket handle portion. Neither Vandergrift, Lazarus or Hagood disclose or suggest a circuit affixed within a slot in the handle of a racket.

With respect to the rejection of claims 6-10, the Examiner states the location of the control circuitry to be an obvious matter of design choice. However, it is inappropriate to take official notice of facts without specific supportive documentary evidence, unless the facts asserted to be well-known are capable of instant and unquestionable demonstration as being well-known, and are of notorious character serving only to fill in the gaps. The fact that none of the references of record disclose a racket including a slot with a control circuit affixed within the slot is evidence that the

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claimed circuit affixed with a slot of the racket handle is not unquestionably well-known. Therefore, Applicant submits that this rejection is improper and should be withdrawn. If the Examiner continues to assert this rejection, Applicant requests that the Examiner provide support for the stated conclusion that the such an invention is mere design choice.

With respect to new independent claim 11, the applied references fail to disclose the invention as claimed for some of the same reasons stated above with respect to claim 1. For example, neither Vandergrift, Lazarus or Hagood, alone or in combination, disclose or suggest a racket frame comprising a at least one circuit located within the racket handle.

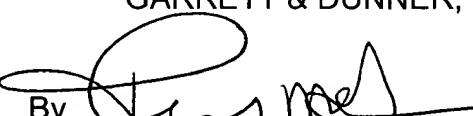
In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account number 06-0916.

Respectfully submitted,

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## APPENDIX TO AMENDMENT

Applicant submits the following requested changes to the amendment with bracketing and underlining for the Examiner's convenience as required by 37 C.F.R. § 1.121(c)(1)(ii). This Appendix is not intended to be entered into the application.

### IN THE CLAIMS:

Please amend claim 1 and 6 as follows:

1. (Amended) A racket comprising:

a racket frame comprising a racket handle portion orientated along a longitudinal axis of the racket, a racket head portion allowing for the attachment thereto of generally longitudinally directed strings and generally laterally directed strings to form a string bed of the racket, and a racket throat area joining the handle portion with the head portion; and

a self-powered piezoelectric damping system for dampening vibrations of the racket during play, the self-powered piezoelectric damping system comprising at least one transducer element laminated to the racket frame and at least one circuit located within the racket handle portion and electrically connected to the at least one transducer element.

6. (Amended) The racket of claim 1, A racket comprising:

a racket frame comprising a racket handle portion orientated along a longitudinal axis of the racket, a racket head portion allowing for the attachment thereto of generally longitudinally directed strings and generally laterally directed strings to form a string bed of the racket, and a racket throat area joining the handle portion with the head portion;  
and

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a self-powered piezoelectric damping system comprising at least one transducer element laminated to the racket frame and at least one circuit located within the racket handle portion and electrically connected to the at least one transducer element,  
wherein the racket handle portion includes a slot in the racket handle portion and the circuit is affixed within the slot.

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